

Appendix A-5

APPENDIX A-5

REQUIREMENTS FOR CONTROL OF FLARING EVENTS AT THE MARTINEZ NON-PETROLEUM REFINERY FACILITY

A. Additional Definitions

1. Definitions. Except as expressly set forth elsewhere in this Consent Decree, the terms used in this Appendix A-5 shall have the meaning given to those terms in this Appendix or in Sections IV or V.E of this Consent Decree; or, if not defined in this Consent Decree, as defined in the Clean Air Act and the implementing regulations promulgated thereunder.

“Air-Assisted Flare” shall mean a Flare at the Martinez NPR Facility that utilizes forced air piped to a Flare tip to assist in combustion. Air-Assisted Flares subject to the terms of this Appendix A-5 are the Martinez NPR East Air Flare and West Air Flare.

“Automatic Control System” shall mean a system that utilizes programming logic to automate the operation of the instrumentation and systems required in Paragraph 20 of this Appendix A-5 so as to produce the operational results required in 40 C.F.R. § 63.670(e) and (m).

“Baseload Waste Gas Flow Rate” shall mean, for a particular Martinez NPR Flare, the daily average flow rate, in scfd, to the Flare, excluding all flows during periods of Startup, Shutdown, and Malfunction. The flow rate data period that shall be used to determine Baseload Waste Gas Flow Rate for the Martinez NPR Flares is set forth in Paragraph 12.a.ii of this Appendix A-5. The Baseload Waste Gas Flow Rate shall be identified in the Initial Flare Management Plan due under Paragraph 12 of this Appendix A-5 and may be updated in subsequent Flare Management Plans due under Paragraph 13 of this Appendix A-5.

“Block Average,” as it pertains to the flaring requirements in this Appendix A-5, shall have the meaning set forth in Appendix C-1.15 of this Consent Decree.

“Block Average Period” or “Block Period,” as it pertains to the flaring requirements in this Appendix A-5, shall have the meaning set forth in Appendix C-1.15 of this Consent Decree.

“Block Sum,” as it pertains to the flaring requirements in this Appendix A-5, shall have the meaning set forth in Appendix C-1.15 of this Consent Decree.

“Block Sum Period,” as it pertains to the flaring requirements in this Appendix A-5, shall have the meaning set forth in Appendix C-1.15 of this Consent Decree.

“Corrective Action” means the design, operation, and maintenance changes that one takes consistent with good engineering practice to reduce or eliminate the

likelihood of the recurrence of the primary cause and any other contributing cause(s) of an event identified by a Root Cause Analysis as having resulted in a discharge of gases from a Martinez NPR Flare in excess of specified thresholds.

“Corrective Action Analysis” means a description of all reasonable interim and long-term measures, if any, that are available, and an explanation of why the selected Corrective Action(s) is/are the best alternative(s), including, but not limited to, considerations of cost effectiveness, technical feasibility, safety, and secondary impacts.

“External Power Loss” shall mean a loss in the supply of electrical power to the Martinez NPR Facility that is caused by events occurring outside the boundaries of the Martinez NPR Facility, excluding power losses due to an interruptible power service agreement.

“Flaring Process Unit” solely for the purposes of this Appendix A-5 means the equipment assembled and connected by pipes or ducts to process raw and/or intermediate materials and to manufacture an intended product. A Flaring Process Unit includes any associated storage vessels and transfer racks, as well as any storage tank storing organic liquid or any transfer rack at which organic liquid is loaded into or unloaded out of transport vehicles or containers. For the purpose of this Appendix A-5, Flaring Process Unit includes, but is not limited to, hydrodeoxygenation units, isomerization units, gas plants, pretreatment units, hydrogen plants, propane dryers, sulfuric acid plants, and blending, sweetening, and treating processes.

“Fuel Gas” means any gas which is generated at the Martinez NPR Facility and which is combusted (including natural gas when the natural gas is combined and combusted in any portion with a gas generated at the Martinez NPR Facility). Fuel Gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from marine tank vessel loading operations or wastewater treatment units other than those processing sour water (i.e., water that contains sulfur compounds at concentrations of 10 ppm by weight or more).

“Fuel Gas System” means the offsite and onsite piping and control system that gathers gaseous streams generated by the Martinez NPR Facility operations, may blend them with sources of gas, if available, and transports the blended gaseous fuel at suitable pressures for use as fuel in heaters, furnaces, boilers, incinerators, gas turbines, and other combustion devices located within or outside of the Martinez NPR Facility. The fuel is piped directly to each individual combustion device, and the system typically operates at pressures over atmospheric. The gaseous streams can contain a mixture of methane, light hydrocarbons, hydrogen, and other miscellaneous species. For the purpose of Section N of this Appendix A-5 only, “Fuel Gas System” means a system of compressors, piping, knock-out pots, mix drums, and units used to remove sulfur contaminants from the Fuel Gas (e.g., amine scrubbers) that collects Fuel Gas from one or more sources for treatment as necessary prior to combusting in process heaters or boilers.

“Hours of Applicability” shall have the meaning set forth in Paragraph 30.c of this Appendix A-5.

“Initial Flare Management Plan” or “Initial FMP” shall mean the document submitted pursuant to Paragraph 12 of this Appendix A-5.

“Malfunction” solely for the purposes of this Appendix A-5 shall mean “any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions.” In any action under Section XV of this Consent Decree (Dispute Resolution) involving this definition, Tesoro shall have the burden of proving all of the following factors:

- (i) The excess emissions were caused by a sudden, unavoidable breakdown of technology, beyond the control of Tesoro;
- (ii) The excess emissions (a) did not stem from any activity or event that could have been foreseen and avoided, or planned for, and (b) could not have been avoided by better operation and maintenance practices;
- (iii) To the maximum extent practicable the air pollution control equipment or processes were maintained and operated in a manner consistent with good practice for minimizing emissions;
- (iv) Repairs were made in an expeditious fashion when the operator knew or should have known that applicable emission limitations were being exceeded. Off-shift labor and overtime must have been utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as practicable;
- (v) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;
- (vi) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
- (vii) All emission monitoring systems were kept in operation if at all possible;
- (viii) Tesoro’s actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence; and
- (ix) Tesoro properly and promptly notified the appropriate regulatory authority.

“Martinez NPR Facility Flare” or “Martinez NPR Flare” shall mean each of the following eight flares at the Martinez NPR Facility as referred to by the names and BAAQMD source numbers in the Martinez Refinery Title V Permit: (i) 50 Unit Flare (BAAQMD Source No. S1524); (ii) Coker Flare (BAAQMD Source No. S1517); (iii) East Air Flare (BAAQMD Source No. S854); (iv) West Air Flare (BAAQMD Source No. S1012); (v) Emergency Flare (BAAQMD Source No. S992); (vi) North Steam Flare (BAAQMD Source No. S944); (vii) South Steam Flare (BAAQMD Source No. S945); and (viii) Tank A-691 Safety Flare (BAAQMD Source No. S943). Collectively, these eight flares shall be referred to as the “Martinez NPR Facility Flares” or “Martinez NPR Flares.”

“Need for a Compressor to Operate” shall mean: (i) for a situation in which no Compressor within the FGRS is recovering gas: when a Potentially Recoverable Gas flow rate (as determined by Paragraph 10 of this Appendix A-5) to the Martinez NPR Flare(s) serviced by the FGRS exists; or (ii) for a situation in which one or more Compressors within the FGRS already are recovering gas: when the Potentially Recoverable Gas flow rate (determined on a 15-minute Block Average) exceeds the capacity of the operating Compressor(s).

“Portable Flare” shall mean a Flare that is not permanently installed that receives Waste Gas that has been redirected to it from a Martinez NPR Flare.

“Potentially Recoverable Gas” shall mean the Sweep Gas, Supplemental Gas introduced prior to a Martinez NPR Flare’s liquid seal, and/or Waste Gas directed to a Martinez NPR Flare’s FGRS or group of Martinez NPR Flares’ FGRS. Purge Gas and Supplemental Gas introduced between a Martinez NPR Flare’s liquid seal and a Martinez NPR Flare’s tip is not Potentially Recoverable Gas. Hydrogen venting from the steam methane reformer (hydrogen plant) is not Potentially Recoverable Gas. Recycled hydrogen that bypasses the FGRS to reestablish hydrogen balance in the event that hydrogen demand declines or stops rapidly is also not Potentially Recoverable Gas. Excess Fuel Gas and excess gases generated during Shutdown, in turnaround, and during Startup, caused by a gas imbalance that cannot be consumed by Fuel Gas consumers in the Martinez NPR Facility, because there is not sufficient demand for the gas, is not Potentially Recoverable Gas provided that when the excess gas is routed around the FGRS, no natural gas is being supplied to the Fuel Gas mix drum. Nitrogen purges of Flaring Process Units that are being Shutdown, in turnaround and during Startup, or the nitrogen purging of operating Flaring Process Units during a partial Martinez NPR Facility turnaround scenario, that cause the NHV of the Fuel Gas at the exit of the mix drum to fall below 740 BTU/scf, shall not be considered Potentially Recoverable Gas, and may be routed around the FGRS.

“Rolling Average,” as it pertains to the flaring requirements in this Appendix A-5, shall have the meaning set forth in Appendix C-1.15 of this Consent Decree.

“Rolling Average Period,” as it pertains to the flaring requirements in this Appendix A-5, shall have the meaning set forth in Appendix C-1.15 of this Consent Decree.

“Rolling Sum,” as it pertains to the flaring requirements in this Appendix A-5, shall have the meaning set forth in Appendix C-1.15 of this Consent Decree.

“Rolling Sum Period,” as it pertains to the flaring requirements in this Appendix A-5, shall have the meaning set forth in Appendix C-1.15 of this Consent Decree.

“Root Cause Analysis” means an assessment conducted through a process of investigation to determine the primary cause, and any other contributing cause(s), of a discharge of gases in excess of specified thresholds.

“Sour Water Stripper Gas” shall mean the gas produced by the process of stripping or scrubbing Martinez NPR Facility sour water.

“Steam-Assisted Flare” shall mean a Flare that utilizes steam piped to a Flare tip to assist in combustion. Steam-Assisted Flares subject to the terms of this Appendix A-5 are the Martinez NPR 50 Unit Flare, Coker Flare, North Steam Flare, South Steam Flare, and Tank A-691 Safety Flare.

“Updated Flare Management Plan” or “Updated FMP” shall mean the document submitted pursuant to Paragraph 13 of this Appendix A-5 as the annual update to the Initial FMP.

“Vent Gas Volumetric Flow Rate” or “Qvg-rate” shall mean the volumetric flow rate of Vent Gas directed to a Martinez NPR Flare in wet scfm.

B. Interim Measures for Flare Combustion Efficiency and Vent and Waste Gas Minimization at the Martinez NPR Facility Flares

2. Evaluating and Upgrading or Replacing, as Necessary, Meters Measuring Sweep Gas and Purge Gas Volumetric Flow Rates. By no later than April 1, 2016, Tesoro shall complete an evaluation of all meters that measure the flow of Sweep Gas and Purge Gas to each Martinez NPR Flare and shall upgrade or replace, as necessary, each such meter in order to ensure an acceptable level of control over flow. If the implementation of any such upgrade or replacement takes longer than April 1, 2016, Tesoro shall complete the implementation as soon as practicable and shall provide a schedule for such completion in the first semi-annual report under Section X (Reporting and Recordkeeping) of this Consent Decree that is due after April 1, 2016. Under no circumstances may Tesoro implement any such measure later than April 1, 2017.

3. Minimizing Sweep and Purge Gas Flow Rates Based on Survey Findings. Prior to April 1, 2016, Tesoro shall complete a survey of the amount of Sweep Gas and Purge Gas introduced to each Martinez NPR Flare. Based on the results of the survey, by no later than April 1, 2016, Tesoro shall complete the implementation of all measures necessary to minimize the amount of Sweep Gas and Purge Gas being directed to each Martinez NPR Flare. If the implementation of any such measure takes longer than April 1, 2016, Tesoro shall complete the implementation as soon as practicable and shall provide a schedule for such completion in the first semi-annual report under Section X (Reporting and Recordkeeping) of this Decree that is

due after April 1, 2016. Under no circumstances may Tesoro implement any such measure later than the Scheduled Turnaround for the affected unit that first occurs after April 1, 2016.

4. Minimizing Leaking Pressure Relief Valves. By no later than April 1, 2017, Tesoro shall conduct and complete a survey (“Initial PRV Leak Survey”) of the large, high-pressure hydrocarbon pressure relief valves (“PRVs”) that discharge to a Martinez NPR Flare; the PRVs are identified in Appendix C-2.2. The Initial PRV Leak Survey shall include but not be limited to acoustic monitoring. During the first Scheduled Turnaround that occurs after eighteen months following completion of the Initial PRV Leak Survey of any unit that houses any PRV listed in Appendix C-2.2, Tesoro shall repair or replace each leaking PRV in that unit. For all other hydrocarbon PRVs directed to a Martinez NPR Flare (that is, all those that are not identified in Appendix C-2.2) that are tied into Flare headers and subheaders, Tesoro shall conduct acoustic monitoring pursuant to a plan and schedule that Tesoro shall include in the Initial Flare Management Plan due under Paragraph 12 of this Appendix A-5.

C. Instrumentation and Monitoring Systems for Martinez NPR Facility Flares

5. Video Camera. By no later than April 1, 2017, this instrument shall record, in digital format, whether a flame or Smoke Emissions are present at the Martinez NPR North Steam Flare and South Steam Flare. It is not a violation of this Consent Decree, however, if Flare video equipment cannot discern the Flare Combustion Zone and/or any Smoke Emissions at these flares due to weather conditions such as fog or snow, provided that recordings are created and retained in accordance with this Consent Decree. This instrument shall comply with the requirements of 40 C.F.R. § 63.670(h)(2).

6. Instrumentation and Monitoring Systems: Optional Equipment for any Martinez NPR Flare. At its option, Tesoro may elect to install (if not already installed) and continuously measure the flow, in scfm or pounds per hour (if the instrument automatically converts flow from scfm to lb/hr), of all Pilot Gas to a Martinez NPR Flare. Tesoro may utilize the data generated by this system as part of the calculation of the Net Heating Value of the Combustion Zone Gas.

7. Instrumentation and Monitoring Systems: Specifications. For the Martinez NPR Flares, the applicable instrumentation and monitoring systems identified in Paragraphs 2, 5, 8, and 26 of this Appendix A-5 and in 40 C.F.R. § 63.670(i) and (j) shall meet or exceed the equipment and instrumentation technical specifications and quality assurance/quality control requirements set forth in Appendix C-1.10.

8. The instrumentation and monitoring systems identified in Paragraphs 2 and 26 of this Appendix A-5 and in 40 C.F.R. § 63.670(i) and (j) shall be able to produce and record data measurements and calculations for each parameter at the following time intervals as applicable to the equipment installed:

| Instrumentation and Monitoring System | Recording and Averaging Times |
|--|--|
| Vent Gas Flow; Vent Gas Average Molecular Weight; Total Steam Flow; Pilot Gas Flow (if installed) | Measure continuously and record 15-minute Block Averages. |
| Net Heating Value by Calorimeter | Measure continuously and record 15- minute Block Averages. |

Nothing in this Paragraph shall prohibit Tesoro from setting up process control logic that uses different averaging times from those in this table provided that the recording and averaging times in this table are available and used for determining compliance with this Consent Decree.

9. Instrumentation and Monitoring Systems: Operation and Maintenance. Tesoro shall operate each of the instruments and monitoring systems required in Paragraphs 2, 5, 8, and 26 of this Appendix A-5 on a continuous basis when the associated Martinez NPR Flare is In Operation and Capable of Receiving Sweep, Supplemental, and/or Waste Gas, except for the periods described in 40 C.F.R. § 63.671(a)(4). Provided however, that in no event shall the excepted activities described in 40 C.F.R. § 63.671(a)(4) for any instrument exceed 5% of the time that the Martinez NPR Flare is In Operation and Capable of Receiving Sweep, Supplemental, and/or Waste Gas in any six-month period. The calculation of instrument downtime shall be made in accordance with 40 C.F.R. § 60.13(h)(2) and Paragraph VIII of Appendix C-1.10. If the excepted activities described in 40 C.F.R. § 63.671(a)(4) exceed 5% of the time that the Martinez NPR Flare is In Operation and Capable of Receiving Sweep, Supplemental, and/or Waste Gas in any six month period, EPA shall be entitled to seek stipulated penalties under Paragraph 188 of Section XII (Stipulated Penalties) and Tesoro shall be entitled to assert that the period of instrumentation and monitoring system downtime was justified under the circumstances. Nothing in this Paragraph is intended to prevent Tesoro from claiming a *force majeure* defense to any period of instrumentation and/or monitoring system downtime. Nothing in this Paragraph supersedes or replaces the monitoring requirements, including operation, maintenance, and quality assurance/quality control requirements, of Sections N or O of this Appendix A-5 or 40 C.F.R. Part 63, Subparts EEEE or FFFF or §§ 63.670 or 63.671. All such requirements shall apply in accordance with the terms set forth in Sections N and O of this Appendix A-5 and 40 C.F.R. Part 63, Subparts EEEE and FFFF and §§ 63.670 and 63.671.

D. Determining Whether a Martinez NPR Facility Flare that has a Liquid Seal is Not Receiving Potentially Recoverable Gas

10. For a Martinez NPR Flare at which all of the following conditions are met, then the Martinez NPR Flare is not receiving Potentially Recoverable Gas flow:

a. For the liquid seal drum associated with the respective Martinez NPR Flare, the pressure difference between the inlet pressure and the outlet pressure is less than the liquid seal

pressure as set by the static head of liquid between the opening of the dip tube in the drum and the level-setting weir in the drum; and

b. For the liquid seal drum associated with the respective Martinez NPR Flare, the liquid level in the drum is at the level of the weir.

11. As an alternative to Paragraph 10 of this Appendix A-5 for a Martinez NPR Flare which does not have a weir, the Martinez NPR Flare is not considered to be receiving a Potentially Recoverable Gas flow if the Vent Gas flow meter indicates a flow rate of less than 0.2 feet/second based on a 15-minute Block Average.

E. Vent and Wast Gas Minimization for Martinez NPR Facility Flares

12. Initial Flare Management Plan (“Initial FMP”). By no later than April 1, 2017, Tesoro shall submit to EPA an Initial Flare Management Plan for the Martinez NPR Facility which incorporates its Martinez NPR Flares that discusses and evaluates flaring prevention measures (“Prevention Measures”), as required in Paragraph 12.c of this Appendix A-5, both Martinez NPR Facility-wide and on a Flare-specific basis. The Initial FMP shall include but not be limited to:

a. Waste Gas Characterization and Mapping. Tesoro shall assess the Waste Gas being disposed of at each Martinez NPR Flare and determine its characteristics as follows:

i. Volumetric (in scfd) Flow Rate. Tesoro shall identify the volumetric flow of Waste Gas, in scfm on a 30-day Rolling Average vented to each Martinez NPR Flare between December 1, 2015, and November 30, 2016. To the extent that, for any particular Martinez NPR Flare, Tesoro has instrumentation capable of measuring the volumetric flow rate of hydrogen, nitrogen, oxygen, carbon monoxide, carbon dioxide, and/or steam in the Waste Gas, Tesoro may break down the volumetric flow as between: (i) all Waste Gas flows excluding hydrogen, nitrogen, oxygen, carbon monoxide, carbon dioxide, and/or water (steam); and (ii) hydrogen, nitrogen, oxygen, carbon monoxide, carbon dioxide, and/or water (steam) flows in the Waste Gas. Tesoro may use either an engineering evaluation or measurements from monitoring or a combination to determine flow rate. In determining flow rate, flows during all periods (including but not limited to normal operations and periods of Startup, Shutdown, Malfunction, process upsets, relief valve leakages, power losses due to an interruptible power service agreement, and emergencies arising from events within the boundaries of the Martinez NPR Facility), except those described in the next sentence, shall be included. Flows that could not be prevented through reasonable planning and are caused by a natural disaster, act of war or terrorism, or External Power Loss are the only flows that shall be excluded from the calculation of flow rate. Tesoro shall specifically describe the date, time, and nature of the event that results in the exclusion of any flows from the calculation.

ii. Baseload Waste Gas Flow Rates. Tesoro shall utilize flow rate data to determine the Baseload Waste Gas Flow Rate, in scfd, to each Martinez NPR Flare. The Baseload Waste Gas Flow Rate shall not include flows during periods of Startup, Shutdown, and Malfunction. The Baseload Waste Gas Flow Rate shall be based on the period between December 1, 2015, and November 30, 2016.

iii. Identification of Constituent Gases. For each Martinez NPR Flare, Tesoro shall use best efforts to identify the constituent gases within the Waste Gas and the typical range of constituent concentrations during baseload conditions. Tesoro may use either an engineering evaluation or measurements from monitoring or a combination to determine Waste Gas constituents.

iv. Waste Gas Mapping. Using instrumentation, isotopic tracing, and/or engineering calculations, Tesoro shall identify and estimate the flow from each Flaring Process Unit Flare header to the main Flare header(s) for each Martinez NPR Flare. Using that information and all other available information, Tesoro shall complete an identification of each Waste Gas tie-in to the main Flare header(s) and Flaring Process Unit Flare header(s), as applicable, consistent with Appendix C-1.11. Temporary connections to a Flare's header(s) and/or subheader(s) are not required to be included in the mapping.

b. Taking a Martinez NPR Flare out of Service. Tesoro shall identify any Martinez NPR Flare that it intends to take out of service, including the date for completion of the decommissioning. Taking a Martinez NPR Flare "out of service" means physically removing piping in the Flare header or physically isolating the piping with a welded blind so as to eliminate direct piping to the Martinez NPR Flare.

c. Prevention Measures. Tesoro shall describe and evaluate all Prevention Measures, including a schedule for the expeditious implementation and commencement of operation of all Prevention Measures, to address the following:

i. Flaring that has occurred or may reasonably be expected to occur during planned maintenance activities, including Startup and Shutdown. The evaluation shall include a review of flaring that has occurred during these activities in the past three years and shall consider the feasibility of performing these activities without flaring.

ii. Flaring that may reasonably be expected to occur due to issues of gas quantity and quality. The evaluation shall include an audit of the flare gas recovery capacity of each Martinez NPR Flare, the capacity including internal piping systems and the amine treating capacity available for Waste Gases including any limitations associated with the amine treating of Waste Gases for use as fuel. The evaluation shall consider the feasibility of reducing flaring through the recovery, treatment, and use of the Waste Gas.

iii. Flaring caused by the recurrent failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. The evaluation shall consider the adequacy of existing maintenance schedules and protocols for such equipment. A failure is "recurrent" if it occurs more than twice during any five year period as a result of the same root cause.

13. Updated Flare Management Plans. On April 1, 2018, and annually thereafter, Tesoro shall submit to EPA an Updated FMP, which shall update for the preceding calendar year, if and as necessary, the information required in Paragraphs 12.a-12.c of this Appendix A-5 and shall also include the following:

a. Reductions Based on Root Cause Analysis. Tesoro shall review all of the Root Cause Analysis reports prepared pursuant to Sections N or O of this Appendix A-5 or pursuant to other provisions of this Consent Decree to determine if reductions in addition to the reductions achieved through any corrective action can be realized; and

b. Revised Schedule. To the extent that Tesoro proposes to extend any schedule set forth in the Initial FMP, Tesoro shall do so only with good cause.

14. Implementation and Enforceability of Flare Management Plans.

a. Implementation. By no later than the dates specified in a FMP, Tesoro shall implement the actions described therein. If (i) no implementation date and/or (ii) no completion date for actions that do not require ongoing implementation (such as the installation of a piece of an equipment) is (are) set forth in the FMP, the implementation and/or completion date shall be deemed the date of the submission of the FMP.

b. Enforceability. The terms of each FMP (including Initial, First Updated, and Subsequent Updated FMPs) submitted under this Section are specifically enforceable.

F. Flare Gas Recovery Systems for Martinez NPR Facility Flares

15. Flare Gas Recovery Systems: Capacity and Start-Up Dates. Except for the Martinez NPR Tank A-691 Safety Flare, by no later than April 1, 2015, Tesoro shall complete installation and commence operation of the following Flare Gas Recovery Systems at the Martinez NPR Facility:

| Martinez NPR Facility | Minimum No. of Compressors | Minimum Capacity of each Compressor (kscfh) | Minimum FGRS Operating Design Capacity (kscfh) |
|------------------------------|-----------------------------------|--|---|
| Martinez Unit 19/DCU | 2 (both existing) | 166.7 | 333.4 |
| Martinez 50U | 2 (both existing) | 3 and 132.5 | 135.5 |

16. Flare Gas Recovery Systems: Operation.

a. General. Tesoro shall operate each FGRS in a manner to minimize Waste Gas to the respective Martinez NPR Flares (except for the Martinez NPR Tank A-691 Safety Flare) while ensuring safe Martinez NPR Facility operations. Tesoro also shall operate each FGRS consistent with good engineering and maintenance practices and in accordance with its design and the manufacturer's specifications.

b. Requirements Related to Compressors Being Available for Operation and/or In Operation. Except for the Martinez NPR Tank A-691 Safety Flare, by no later than April 1, 2015, Tesoro shall comply with the following requirements when Potentially Recoverable Gas is being generated:

i. For each FGRS at the Martinez NPR Facility Unit 19/DCU and Martinez NPR Facility 50U, Tesoro shall have one Compressor Available for Operation and/or In Operation 98% of the time and two Compressors Available for Operation and/or In Operation 95% of the time.

ii. Period to Be Used for Computing Percentage of Time. For purposes of calculating compliance with the 95% and the 98% of time that a Compressor or group of Compressors shall be Available for Operation and/or In Operation, as required by this Paragraph, the period to be used shall be an 8760-hour Rolling Sum, rolled hourly, using only hours when Potentially Recoverable Gas was generated during all or part of the hour but excluding hours for flows that could not have been prevented through reasonable planning and were in anticipation of or caused by a natural disaster, act of war or terrorism, or External Power Loss. When no Potentially Recoverable Gas was generated during an entire hour, then that hour shall not be used in computing the 8760-hour Rolling Sum.

iii. Periods of maintenance on and subsequent restart of the equipment within the FGRS that is shared by all Compressors (for example, the liquid seal, the knock-out drum, valves), such that the entire FGRS shall be shut down in order to undertake the maintenance may be included in the amount of time that a Compressor is Available for Operation; provided however, that these periods shall not exceed 1,344 hours in a five-year Rolling Sum Period, rolled daily. Tesoro shall use best efforts to schedule these maintenance activities during a Scheduled Turnaround of the Flaring Process Units venting to the Martinez NPR Flare. To the extent it is not practicable to undertake these maintenance activities during a Scheduled Turnaround, Tesoro shall use best efforts to minimize the generation of Waste Gas during such periods.

G. Limitations on Flaring

17. Limitations on Flaring. Tesoro shall comply with the following limitations on flaring of Waste Gas at all of the Martinez NPR Flares: (i) by no later than May 1, 2017, a 30-day rolling average, rolled daily of 1,516,353 scfd; and (ii) by no later than April 1, 2018, a 365-day rolling average, rolled daily of 1,010,902 scfd. The Rolling Average Period shall include only the prior 30 Days or 365 Days, as applicable, when any Martinez NPR Flare was In Operation. Each exceedance of the 30-day Rolling Average limit or each exceedance of the 365-day Rolling Average limit shall constitute one Day of violation. An exceedance of either or both of the limits shall not prohibit ongoing Martinez NPR Facility operations.

18. Meaning and Calculation of “Waste Gas” Flow for Purposes of the Limitation on Flaring. For purposes of the meaning and calculation of “Waste Gas” flow in the limitations on flaring in Paragraph 17 of this Appendix A-5, the following shall apply:

a. To the extent that Tesoro has instrumentation capable of measuring the volumetric flow rate of hydrogen, nitrogen, oxygen, carbon monoxide, carbon dioxide, and/or water (steam) in the Waste Gas, the contribution of all measured flows of any of these elements/compounds may be excluded from the Waste Gas flow rate calculation.

b. Waste Gas flows during all periods (including but not limited to normal operations and periods of Startup, Shutdown, Malfunction, process upsets, relief valve leakages, power losses due to an interruptible power service agreement, and emergencies arising from events within the boundaries of the Martinez NPR Facility) shall be included. Waste Gas flows that could not be prevented through reasonable planning and are caused by a natural disaster, act of war or terrorism, or External Power Loss may be excluded from the calculation of flow rate.

Except for hydrogen, nitrogen, oxygen, carbon monoxide, carbon dioxide, and/or water (steam) contributions to the flow rate that are excluded by virtue of instrumentation measuring these flows, Tesoro shall submit a description in the semi-annual report to EPA pursuant to Section X (Reporting and Recordkeeping) that specifically identifies the event that resulted in the exclusion. Tesoro shall describe the following: the date(s) and duration(s) of the flows caused by the event; the estimated VOC and SO₂ emissions during the event; whether flows from the event are anticipated to persist after the notice, and if so, for how long; and the measures taken or to be taken to prevent or minimize the flows, including, for future anticipated flow, the schedule by which those measures will be implemented.

H. Flare Combustion Efficiency Requirements for Martinez NPR Flares

19. Emission Standards and Work Practices Applicable to Each Martinez NPR Flare. Tesoro shall comply with the following combustion efficiency requirements at each Martinez NPR Flare:

a. Operation During Waste Gas Venting. By no later than April 1, 2016, Tesoro shall operate the Martinez NPR Tank A-691 Safety Flare at all times when Waste Gas may be vented to it.

b. No Visible Emissions. By no later than January 30, 2019, Tesoro shall comply with the following at the Martinez NPR Tank A-691 Safety Flare:

i. Tesoro shall specify the smokeless design capacity of the Martinez NPR Tank A-691 Safety Flare and operate with no Visible Emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, when the Vent Gas flow rate is less than the smokeless design capacity of the Flare. Tesoro shall monitor for Visible Emissions from the Flare as specified in Paragraph 19.b.ii of this Appendix A-5.

ii. Tesoro shall monitor Visible Emissions when the Flare is In Operation. An initial Visible Emissions demonstration must be conducted using an observation period of 2 hours using Method 22 at 40 C.F.R. Part 60, Appendix A-7. Subsequent Visible Emissions observations must be conducted using either the methods in Paragraph 19.b.ii(a) of this Appendix A-5, alternatively, the methods in Paragraph 19.b.ii(b) of this Appendix A-5. Tesoro must record and report any instances where Visible Emissions are observed for more than 5 minutes during any 2 consecutive hours, including the date and time of the 2 hour period and an estimate of the cumulative number of minutes in the 2 hour period for which emissions were visible.

(a) At least once per Day, Tesoro shall conduct Visible Emissions observations using an observation period of 5 minutes using Method 22 at 40 C.F.R. Part 60, Appendix A-7. If at any time Tesoro sees Visible Emissions, even if the minimum required daily Visible Emissions monitoring has already been performed, Tesoro shall immediately begin an observation period of 5 minutes using Method 22 at 40 C.F.R. Part 60, Appendix A-7. If Visible Emissions are observed for more than one continuous minute during any 5-minute observation period, the observation period using Method 22 at 40 C.F.R. Part 60, Appendix A-7 must be extended to 2 hours or until 5-minutes of no Visible Emissions are observed.

(b) Use a video surveillance camera to continuously record (at least one frame every 15 seconds with time and date stamps) images of the Flare flame and a reasonable distance above the Flare flame at an angle suitable for Visual Emissions observations. Tesoro must provide real-time video surveillance camera output to the control room or other continuously manned location where the camera images may be viewed at any time.

c. Flame Presence. By no later than January 30, 2019, Tesoro shall comply with the following at the Martinez NPR Tank A-691 Safety Flare:

i. Pilot Flame Presence. Tesoro shall operate the Martinez NPR Tank A-691 Safety Flare with a pilot flame present when the Flare is In Operation. Each 15-minute block during which there is at least one minute where no pilot flame is present when Vent Gas is routed to the Flare is a deviation of the standard. Deviations in different 15-minute blocks from the same event are considered separate deviations. Tesoro shall monitor for the presence of a pilot flame as specified in Paragraph 19.c.ii of this Appendix A-5.

ii. Pilot Flame Monitoring. Tesoro shall continuously monitor the presence of the pilot flame(s) using a device (including, but not limited to, a thermocouple, ultraviolet beam sensor, or infrared sensor) capable of detecting that the pilot flame(s) is present.

d. Monitoring According to Applicable Provisions. Tesoro shall comply with all applicable Subparts of 40 C.F.R. Parts 60, 61, or 63, that state how a particular Martinez NPR Flare shall be monitored.

e. Good Air Pollution Control Practices. At all times, including during periods of Startup, Shutdown, and/or Malfunction, Tesoro shall implement good air pollution control practices to minimize emissions from each Martinez NPR Flare commencing no later than April 1, 2016; provided however, that Tesoro shall not be in violation of this requirement for any practice that this Consent Decree requires Tesoro to implement after the Date of Entry for the period between the Date of Lodging and the implementation date or compliance date (whichever is applicable) for the particular practice.

20. Work Practice Standards for Martinez NPR Flares. By no later than April 1, 2017, for the Martinez NPR North Steam Flare and South Steam Flare, and by no later than January 30, 2019, for the Martinez NPR Coker Flare, East Air Flare, and West Air Flare, for these Martinez NPR Flares utilizing the instrumentation and controls required to be installed pursuant to Paragraphs 2, 5, 8, and 26 of this Appendix A-5 and 40 C.F.R. § 63.670(i) and (j), Tesoro shall

install and operate on each such Martinez NPR Flare an Automatic Control System that shall automate the control of the Supplemental Gas flow rate to the respective Martinez NPR Flare.

21. Operation According to Design. By no later than April 1, 2016, for all Martinez NPR Flares, Tesoro shall operate and maintain each Martinez NPR Flare in accordance with its design, except if, and only to the extent that, operation and maintenance of the Martinez NPR Flare in conformance with its design conflicts with compliance with one or more of the requirements of this Appendix A-5. The requirements of this Paragraph shall not apply to the extent necessary to achieve personnel and process safety or prevent equipment damage.

22. 96.5% Combustion Efficiency. By no later than October 1, 2017, for the Martinez NPR North Steam Flare and South Steam Flare, and by no later than January 30, 2019, for the Martinez NPR Coker Flare, East Air Flare, and West Air Flare, Tesoro shall operate these Martinez NPR Flares with a minimum of a 96.5% Combustion Efficiency at all times when Waste Gases are vented to each of these Martinez NPR Flares. To demonstrate continuous compliance with the applicable Combustion Efficiency requirement, Tesoro shall operate each such Martinez NPR Flare within the range of relevant operating parameters (NHV_{cz} , NHV_{dil}) set forth in 40 C.F.R. § 670(e), (f), (m) and (n).

23. Inapplicability of Paragraph 22.

a. The requirements of Paragraph 22 of this Appendix A-5 are not applicable to any Martinez NPR Flare when the only gases being vented to the Martinez NPR Flare is/are Pilot Gas and/or Purge Gas. Pilot Gas and Purge Gas will be considered to be the only gases being vented to those Flares if the following conditions are satisfied for the liquid seal drum that is part of the FGRS associated with the respective Martinez NPR Flare:

i. For the liquid seal drum associated with respective Martinez NPR Flare, the pressure difference between the inlet pressure and outlet pressure is less than the liquid seal pressure as set by the static head of liquid between the opening of the dip tube in the drum and the level-setting weir in the drum;

ii. For the liquid seal drum associated with the respective Martinez NPR Flare, the liquid level in the drum is at the level of the weir; and

iii. Downstream of the seal drum associated with the respective Martinez NPR Flare there is no flow of Supplemental Gas directed to the Martinez NPR Flare.

b. As an alternative to Paragraph 23.a of this Appendix A-5, for a Martinez NPR Flare which does not have a weir, Pilot Gas and Purge Gas will be considered to be the only gases being vented to those Flares if the Vent Gas flow meter indicates a flow rate of less than 0.2 feet/second based on a 15-minute Block Average.

24. Recordkeeping: Timing and Substance. Tesoro shall comply with the following recordkeeping requirements:

a. By no later than January 30, 2019, for the Martinez NPR Coker Flare, East Air Flare, and West Air Flare, and by no later than October 1, 2017, for all other Martinez NPR Flares, Tesoro shall calculate and record, in accordance with the recording and averaging times required in Paragraph 8 of this Appendix A-5, each of the following parameters:

- i. NHV_{cz} (in BTU/scf); and
- ii. NHV_{vg} (in BTU/scf).

Martinez NPR Flares are only required to calculate and record the parameters specified in Paragraph 24.a.i-ii of this Appendix A-5 if applicable.

b. By no later than January 30, 2019, for the Martinez NPR Coker Flare, East Air Flare, and West Air Flare, and by no later than October 1, 2017, for all other Martinez NPR Flares, all Martinez NPR Flares, commencing if and when the downtime of any instrumentation and monitoring system subject to Paragraph 9 of this Appendix A-5 exceeds 5% of the time that the Martinez NPR Flare is In Operation and Capable of Receiving Sweep, Supplemental, and/or Waste Gas in any six month period for the Martinez NPR Flare that is being monitored by the respective instrument, Tesoro shall record the duration of the deviation, an explanation of the cause(s) of the deviation, and a description of the corrective action(s) that Tesoro took.

c. At any time that Tesoro deviates from the standards in Paragraphs 19 and 22 of this Appendix A-5 or the operating parameters (NHV_{cz} , NHV_{dil}) set forth in 40 C.F.R. § 670(e), (f), (m), or (n), after the effective date of those standards, Tesoro shall record the duration of the deviation, an explanation of the cause(s) of the deviation, and a description of the corrective action(s) that Tesoro performed.

d. For the Martinez NPR Tank A-691 Safety Flare, output of the monitoring device used to detect the presence of a Pilot Flame as required in Paragraph 19.c of this Appendix A-5.

e. For the Martinez NPR Tank A-691 Safety Flare, records of daily Visible Emissions observations or video surveillance images required in Paragraph 19.b.i of this Appendix A-5.

i. If Visible Emissions observations are performed using Method 22 at 40 C.F.R. Part 60, Appendix A-7, the record must identify whether the Visible Emissions observation was performed, the results of each observation, total duration of observed Visible Emissions, and whether it was a 5-minute or 2-hour observation. If Tesoro performs Visible Emissions observations more than one time during a Day, the record must also identify the date and time of day each Visible Emissions observation was performed.

ii. If video surveillance camera is used, the record must include all video surveillance images recorded, with time and date stamp.

iii. For each 2 hour period for which Visible Emissions are observed for more than 5 minutes in 2 consecutive hours, the record must include the date and time of the 2 hour

period and an estimate of the cumulative number of minutes in the 2 hour period for which emissions were visible.

f. All periods during which Tesoro does not perform Flare monitoring according to the procedures in Paragraphs 5, 8, and 19.b and c of this Appendix A-5.

g. For the Martinez NPR Tank A-691 Safety Flare, records of when the flow of Vent Gas exceeds the smokeless capacity of the Flare, including start and stop time and dates of the flaring event.

h. Recordkeeping: Document Retention. For purposes of this Appendix A-5, and except with respect to the data produced by video cameras required pursuant to Paragraph 5 of this Appendix A-5, Tesoro shall retain all records created pursuant to this Appendix A-5, including the raw data values, in accordance with Section X (Reporting and Recordkeeping) and shall make any such documents available to EPA upon request. Tesoro shall retain the data recorded by the Video Cameras required pursuant to Paragraph 5 of this Appendix A-5 for six months.

25. Portable Flares.

a. Applicability. The provisions of this Paragraph shall apply to Portable Flares.

b. Distinction Between Planned and Unplanned Outages of Martinez NPR Flares. For purposes of this Paragraph, a “planned” outage shall mean an outage of a Martinez NPR Flare that is scheduled 30 Days or more in advance of the outage. An “unplanned” outage is an outage of a Martinez NPR Flare that either is scheduled less than 30 Days in advance or is unscheduled.

c. 504 Hours or Less. For any planned or unplanned outage of a Martinez NPR Flare that Tesoro knows or reasonably anticipates will result in 504 hours or less of downtime on a 1095-day Rolling Sum Period, rolled daily, Tesoro shall make good faith efforts to ensure that the Portable Flare that replaces the Martinez NPR Flare complies with all of the requirements of this Appendix A-5 that are applicable to the Martinez NPR Flare that the Portable Flare replaces.

d. More than 504 Hours.

i. Planned. For any planned outage of a Martinez NPR Flare that Tesoro knows or reasonably can anticipate will last 504 hours or more on a 1095-day Rolling Sum Period, rolled daily, Tesoro shall ensure that the Portable Flare complies with all of the requirements of this Appendix A-5 related to the Martinez NPR Flare that it replaces as of the date that the Portable Flare is In Operation and Capable of Receiving Waste, Supplemental, and/or Sweep Gas.

ii. Unplanned. For any unplanned outage of a Martinez NPR Flare that, in advance of the outage, Tesoro cannot reasonably anticipate will last longer than 504 hours, Tesoro shall ensure that the Portable Flare complies with all of the requirements of this Appendix A-5 related to the Martinez NPR Flare that it replaces by no later than 30 Days after

the date that Tesoro knows or reasonably should have known that the outage will last 504 hours or more.

e. Recordkeeping. Tesoro shall keep records sufficient to document compliance with the requirements of this Paragraph any time it uses a Portable Flare.

I. Requirements for Air-Assisted Flares

26. Additional Air-Assisted Flare Requirements: Instrumentation and Monitoring Systems. Tesoro shall undertake the following measures for Air-Assisted Flares.

a. By no later than January 30, 2019, for the Martinez NPR East Air Flare and West Air Flare, install a flow meter in order to determine the Vent Gas Volumetric Flow Rate to Air-Assisted Flares. The air flow rate shall be determined from the fan speeds or measured on the Assist Air blowers; and

b. By no later than January 30, 2019, for the Martinez NPR East Air Flare and West Air Flare, continue to operate a Variable Speed Motor on the Air-Assisted Flares' Assist Air blowers.

J. Alternative Means of Emission Limitation

27. Tesoro may follow the procedures in 40 CFR §63.670(r) and either § 63.2380(i) or § 63.2450(e)(5)(xiii) to apply for alternative means of emission limitation or compliance demonstration. Any alternative means of emission limitation or compliance demonstration shall only affect the requirements of Paragraphs 19 and 22 of this Appendix A-5.

K. Resolution of Inconsistencies between Consent Decree and MACT Requirements

28. To the extent that, from the Date of Lodging of this Consent Decree until its Termination pursuant to Section XXI, revisions to 40 C.F.R. §§ 670, 671, 63.2380, and 63.2450(e)(5) are final and effective and are inconsistent with any of the requirements for this Appendix A-5, Tesoro shall comply only with the final, effective regulatory requirements. As used in this Paragraph, "inconsistent" means that compliance with both provisions is not possible.

L. Exception for Monitoring System Downtime

29. A failure to comply with the work practices or standards in Paragraphs 19 and 20 of this Appendix A-5 shall not constitute a violation of this Consent Decree of such work practice or standard if the non-compliance results from downtime of monitoring systems due to the following:

a. Malfunction of a monitoring system, for a monitoring system needed to meet the requirement(s);

b. Repairs associated with monitoring system malfunctions, for a monitoring system needed to meet the requirement(s);

c. Required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments); or

d. Quality Assurance/Quality Control activities on a monitoring system needed to meet the requirement.

Provided, however, that this exception shall no longer be applicable if the activities in Paragraphs 29.a-29.d of this Appendix A-5 exceed 5% of time that the Martinez NPR Flare is In Operation and Capable of Receiving Sweep, Supplemental, and/or Waste Gas in any six month period for any instrument. The calculation of monitoring system downtime shall be made in accordance with 40 C.F.R. § 60.13(h)(2) and Paragraph VIII of Appendix C-1.10.

M. Reporting Requirements

30. Monitoring System Downtime and Emissions Exceedances under this Consent Decree. For the purpose of this Consent Decree only, on and after the date of applicability of any work practice or standard, Tesoro shall provide a summary of the following, for each Martinez NPR Flare subject to this requirement (hours shall be rounded to the nearest tenth) in their semi-annual reports submitted pursuant to Section X (Reporting and Recordkeeping):

a. The total number of hours of downtime of each monitoring instrument/equipment required pursuant to Paragraphs 5, 7, and 8 (and, if applicable, Paragraph 26) of this Appendix A-5 and pursuant to 40 C.F.R. § 63.670(i) and (j), expressed as both an absolute number and a percentage of time each Martinez NPR Flare that the instrument/equipment monitors is available for operation;

b. If the total number of hours of downtime of any monitoring instrument/equipment required pursuant to Paragraphs 5, 7, and 8 (and, if applicable, Paragraph 26) of this Appendix A-5 and pursuant to 40 C.F.R. § 63.670(i) and (j), exceeds 5% of the time that the Martinez NPR Flare is In Operation and Capable of Receiving Sweep, Supplemental, and/or Waste Gas in any six month period an identification of the periods of downtime by date, time, cause (including Malfunction or maintenance), and, if the cause is asserted to be a Malfunction, the corrective action taken;

c. Inapplicability of Emissions Standards under this Consent Decree. For the purpose of this Consent Decree only, the total number of hours expressed as both an absolute number of hours and a percentage of time each Martinez NPR Flare was In Operation in which the requirements of Paragraph 22 of this Appendix A-5 and 40 C.F.R. § 63.670(e) and (m) were not applicable because the only gas or gases being vented was/were Pilot Gas and/or Purge Gas; for purposes of Paragraphs 30.d and 30.e of this Appendix A-5, all remaining hours shall be termed “Hours of Applicability”;

d. Exceedances of Standards under this Consent Decree. For the purpose of this Consent Decree only, during the Hours of Applicability, the total number of hours of exceedances of each of the standards in 40 C.F.R. § 63.670(e) or (m) (and, if applicable, 40 C.F.R. § 63.670(f) or (n)), expressed as both an absolute number of hours and a percentage of time each Martinez NPR Flare was In Operation; provided however, that if the exceedance of

these standards was less than 5% of the time that the Martinez NPR Flare is In Operation and Capable of Receiving Sweep, Supplemental, and/or Waste Gas in any six month period, the report shall so note;

i. Records of the output of the monitoring device used to detect the presence of a Pilot Flame as required in Paragraph 19.c of this Appendix A-5 and 40 C.F.R. § 63.670(b) and (g) for each 15-minute block.

ii. Visible Emission records of the date and time of the 2 hour period and an estimate of the cumulative number of minutes in the 2 hour period for which emissions were visible for each period of 2 consecutive hours during which Visible Emissions exceed a total of 5 minutes.

iii. The 15-minute Block Average Periods for which the applicable operating limits specified in 40 C.F.R. § 63.670(d), (e), (k), and (m) (and, if applicable, Paragraph 26 of this Appendix A-5 and 40 C.F.R. § 63.670(f) and (n)) are not met. Indicate the date and time for the period, the Net Heating Value and/or Flare Tip Velocity operating parameter(s) determined following the methods in 40 C.F.R. § 63.670.

e. Flaring Flow Rate Limitations Exceedances.

i. For any Waste Gas flows that are excluded from the calculation of flow rate because they are asserted to be based on one or more of the excludible events identified in Paragraph 18 of this Appendix A-5, the information required in Paragraph 18 of this Appendix A-5;

ii. An identification of each Day in which the limitations on flaring set forth in Paragraph 17 of this Appendix A-5 were exceeded;

iii. The cause of the exceedance;

iv. If the cause is asserted to be a Malfunction, description of the Malfunction and any corrective actions taken;

v. A quantification of the total flow and a calculation of the percent over the standard in Paragraph 17 of this Appendix A-5.

31. Emissions Data. In the semi-annual report that is required to be submitted by Paragraph 170 of Section X of this Consent Decree by September 1 of each year, Tesoro shall provide, for each Martinez NPR Flare subject to this requirement, for the prior calendar year, the amount of emissions of the following compounds (in tons per year): VOCs, SO₂, H₂S, CO₂, methane, and ethane.

N. SO₂ Emissions Reductions from the Martinez Non-Petroleum Refinery Facility Flares

32. Scope. Except for the Tank A-691 Safety Flare, all Martinez NPR Flares are subject to the requirements of this Section N of Appendix A-5.

33. H₂S Limit. Beginning no later than November 11, 2015, Tesoro shall not burn in any Martinez NPR Flare any Fuel Gas that contains H₂S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis (i.e., the arithmetic average of three contiguous 1-hour averages). The combustion in a Martinez NPR Flare of process upset gases (i.e., any gas generated by a Martinez NPR Facility process unit or by ancillary equipment as a result of Startup, Shutdown, upset, or Malfunction) or Fuel Gas that is released to the Martinez NPR Flare as a result of relief valve leakage or other emergency Malfunctions is exempt from this limit. The H₂S limit of this Paragraph 33 of this Appendix A-5 shall not apply during periods of Startup, Shutdown, or Malfunction of a Martinez NPR Flare or Malfunction of the associated H₂S control equipment provided that during such periods Tesoro, to the extent practicable, maintains and operates the Martinez NPR Flare, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

34. Demonstrating Compliance with the H₂S Limit. Beginning no later than November 11, 2015, Tesoro shall use H₂S CMS to monitor performance of the Martinez NPR Flares to report compliance with the terms and conditions of this Section N. H₂S CMS shall be used to demonstrate compliance with the H₂S limit established pursuant to Paragraph 33 of this Appendix A-5 by continuously monitoring and recording the concentration by volume (dry basis) of H₂S in Fuel Gases before being burned in any Martinez NPR Flare. Tesoro shall make H₂S CMS data available to EPA upon request. Tesoro shall install, certify, calibrate, maintain, and operate all H₂S CMS required by this Paragraph in accordance with the provisions of 40 C.F.R. § 60.13 that are applicable to H₂S CMS (excluding those provisions applicable only to COMS) and Part 60, Appendices A and F, and the applicable performance specification test of 40 C.F.R. Part 60, Appendix B, including, but not limited to, (i) Performance Specification 7 of Appendix B to Part 60; and (ii) for conducting relative accuracy evaluations, Method 11, 15, or 15A of Appendix A-5 to Part 60 or Method 16 of Appendix A-6 to Part 60. The span value for the H₂S CMS shall be 300 ppmv H₂S.

a. Single CMS for Multiple Martinez NPR Flares. Martinez NPR Flares having a common source of Fuel Gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H₂S in the Fuel Gas being burned in the respective Martinez NPR Flares.

b. Exemption from Monitoring Requirements for Certain Fuel Gas Streams. Martinez NPR Flares are not required to monitor the following Fuel Gas streams: (i) Pilot Gas for heaters or Flares; (ii) Fuel Gas streams that meet a commercial-grade product specification for sulfur content of 30 ppmv or less; or (iii) Fuel Gas streams produced in process units that are intolerant to sulfur contamination (e.g., Fuel Gas streams produced in the hydrogen plant). Tesoro may also submit for EPA approval a written application for an exemption from monitoring for a Fuel Gas stream Tesoro demonstrates is inherently low in sulfur, with such application containing all the information in 40 C.F.R. § 60.107a(b)(1)(i)-(v).

c. Total Reduced Sulfur CMS in Lieu of H₂S CMS. Tesoro may use a total reduced sulfur CMS (“TRS CMS”) in lieu of a H₂S CMS to demonstrate compliance with the H₂S limit established pursuant to Paragraph 33 of this Appendix A-5 by continuously monitoring and recording the concentration of total reduced sulfur in gas discharged to a Martinez NPR Flare. Tesoro shall make TRS CMS data available to EPA upon request. Tesoro shall install, certify,

operate, calibrate, and maintain all TRS CMS in accordance with the provisions of 40 C.F.R. § 60.13 that are applicable to TRS CMS (excluding those provisions applicable only to COMS) and Part 60, Appendices A and F, and the applicable performance specification test of 40 C.F.R. Part 60, Appendix B, including, but not limited to, (i) Performance Specification 5 of Appendix B to Part 60; and (ii) for conducting relative accuracy evaluations, Method 15A of Appendix A-5 to Part 60, Method ANSI/ASME PTC 19.10-1981, or Section 16.0 of Performance Specification 2 of Appendix B to Part 60 (cylinder gas audits). The span value for the TRS CMS (or dual span, if necessary) shall be capable of measuring concentrations between 20 and 300 ppmv. The concentration directly measured by the TRS CMS shall meet the numeric concentration of the H₂S limit in Paragraph 33 of this Appendix A-5.

35. Root Cause and Corrective Action Analyses Requirements. Tesoro shall comply with Sections 12-11-501, 12-11-502, 12-11-506, 12-11-601, and 12-11-602 of BAAQMD Rule 12-11 and 12-12-208, 12-12-406, and 12-12-501 of BAAQMD Rule 12-12, as such provisions both relate to the Martinez NPR Flares and establish Root Cause and Corrective Action Analyses requirements for the Martinez NPR Flares. If BAAQMD revises any of these provisions, such revisions shall become the applicable requirements under this Paragraph 35 of this Appendix A-5 provided that such revisions are no less stringent than the provisions as adopted on November 3, 2021. Compliance with these provisions shall be determined in accordance with BAAQMD's rules and regulations. These provisions shall be federally enforceable under this Consent Decree and shall survive termination of this Consent Decree as federally-enforceable requirements applicable to the Martinez NPR Flares even if these provisions have not become part of the applicable SIP.

36. Flare Minimization Plan. Tesoro shall comply with Sections 12-12-201, 12-12-301, 12-12-401, and 12-12-404.1 of BAAQMD Rule 12-12, as such provisions both relate to the Martinez NPR Flares and establish Flare Minimization Plan requirements for the Martinez NPR Flares. If BAAQMD revises any of these provisions, such revisions shall become the applicable requirements under this Paragraph 36 of this Appendix A-5 provided that such revisions are no less stringent than the provisions as adopted on November 3, 2021. Compliance with these provisions shall be determined in accordance with BAAQMD's rules and regulations. These provisions shall be federally enforceable under this Consent Decree and shall survive termination of this Consent Decree as federally-enforceable requirements applicable to the Martinez NPR Flares even if these provisions have not become part of the applicable SIP.

37. Recordkeeping. Tesoro shall maintain the following records:

a. The occurrence and duration of any Startup, Shutdown, or Malfunction in the operation of a Martinez NPR Flare; any Malfunction of the air pollution control equipment; or any periods during which a CMS is inoperative. Tesoro shall maintain a file of all measurements, including CMS and performance testing measurements; all CMS performance evaluations; all CMS calibration checks; adjustments and maintenance performed on any CMS; and all other information required by this Section N of Appendix A-5 in a permanent form suitable for inspection.

b. A copy of the Flare Minimization Plan.

c. Records of discharges greater than 500 pounds SO₂ in any 24-hour period from any Martinez NPR Flare and discharges to a Martinez NPR Flare in excess of 500,000 standard cubic feet above baseline in any 24-hour period. The following information shall be recorded no later than 45 Days following the end of a discharge exceeding the thresholds:

- i. A description of the discharge.
- ii. The date and time the discharge was first identified and the duration of the discharge.
- iii. The measured or calculated cumulative quantity of gas discharged to the Flare over the discharge duration. If the discharge duration exceeds 24 hours, record the quantity of gas discharged to the Flare for each 24-hour period.
- iv. For each discharge greater than 500 pounds SO₂ in any 24-hour period, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the Fuel Gas at a representative location in the Flare inlet.
- v. For each discharge greater than 500 pounds SO₂ in any 24-hour period, the cumulative quantity of H₂S and SO₂ released into the atmosphere (for released controlled by Flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂).
- vi. The steps that Tesoro took to limit the emissions during the discharge.
- vii. The Root Cause Analysis and Corrective Action Analysis conducted as required in Paragraph 35 of this Appendix A-5, including an identification of the Martinez NPR Flare, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis, and either a description of the recommended Corrective Action(s) or an explanation of why Corrective Action is not necessary.
- viii. For any Corrective Action Analysis for which Corrective Actions are required, a description of the Corrective Action(s) completed within the first 45 Days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.
- ix. For each discharge from any Martinez NPR Flare that is the result of a planned Startup or Shutdown of a Martinez NPR Facility process unit or ancillary equipment connected to the Flare, a statement that a Root Cause Analysis and Corrective Action Analysis are not necessary because Tesoro followed the Flare Minimization Plan.

d. If Tesoro is using an H₂S CMS to comply with the sulfur monitoring requirements of Paragraph 35 of this Appendix A-5, records of the H₂S and total sulfur analyses of each grab or integrated sample, the calculated daily total sulfur-to-H₂S ratios, the calculated 10-day average total sulfur-to-H₂S ratios, and the 95-percent confidence intervals for each 10-day average total sulfur-to-H₂S ratio.

38. Reporting. Tesoro shall report compliance with this Section N of Appendix A-5 by submitting an excess emissions and monitoring systems performance report and/or a summary

report form in accordance with the provisions of 40 C.F.R. § 60.7(c)-(d) on a semi-annual basis pursuant to Section X of this Consent Decree (Reporting and Recordkeeping). The report shall also include the following information:

- a. The date that the exceedance occurred.
- b. An explanation of the exceedance.
- c. Whether the exceedance was concurrent with a Startup, Shutdown, or Malfunction of a Martinez NPR Flare or control system.
- d. A description of the action taken, if any.
- e. The information described in Paragraph 37.c of this Appendix A-5 for all discharges listed in Paragraph 37.c of this Appendix A-5.
- f. For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and Martinez NPR Flare during periods of data unavailability are to be compared with operation of the control system and Martinez NPR Flare before and following the period of data unavailability.
- g. A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

39. General Duty Requirements. At all times, including periods of Startup, Shutdown, and Malfunction, Tesoro shall, to the extent practicable, maintain and operate Martinez NPR Flares, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

40. Circumvention. Tesoro shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of the requirements of this Section N of Appendix A-5. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with a limit which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

O. NESHAP Applicability for the Martinez NPR Facility Flares

41. 40 C.F.R. §§ 63.670 and 63.671 Applicability. Except for the Martinez NPR Tank A-691 Safety Flare, each Martinez NPR Flare shall be subject to the requirements of 40 C.F.R. Part 63, Subparts EEEE and FFFF and shall comply with the requirements of 40 C.F.R. §§ 63.2380(a) and 63.2450(e)(5), provided that each Martinez NPR Flare must comply with the applicable requirements for flares as specified in 40 C.F.R. §§ 63.670 and 63.671 of 40 C.F.R. Part 63, Subpart CC (including the provisions in Tables 12 and 13), except as specified in 40 C.F.R. §§ 63.2380(b) through (m) and 63.2450(e)(5)(i) through (xiii). Except for the Martinez NPR Tank A-691 Safety Flare, compliance with 40 C.F.R. §§ 63.670 and 63.671 is required by this Consent Decree for each Martinez NPR Flare even though compliance with 40 C.F.R. §§ 63.670

and 63.671 (i) applies only to certain flares that meet the criteria in § 63.2380(a); and (ii) is optional under 40 C.F.R. § 63.2450(e)(5).

42. Reporting. Tesoro shall report compliance with this Section O of Appendix A-5 by submitting copies of all reports related to or required by the flaring provisions of 40 C.F.R. Part 63, Subparts CC, EEEE, and FFFF on a semi-annual basis pursuant to Section X (Reporting and Recordkeeping). Such reports include, but are not limited to, the reports required under (i) 40 C.F.R. §§ 63.670, 63.671, 63.2380, 63.2382, 63.2386, 63.2450(e)(5), 63.2520, and the federal regulations cross-referenced or incorporated by reference thereunder; and (ii) 40 C.F.R. Part 63, Subpart A.